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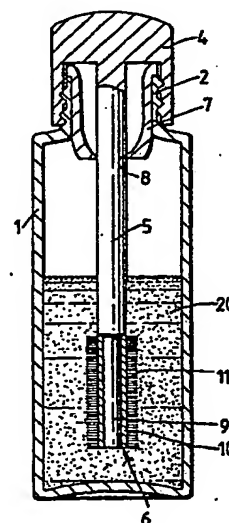
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54 Container and applicator assembly.

57 A container (1) for a composition such as mascara has a closure/handle (4) forming part of an applicator. A shaft (5) extends into the container from the closure/handle and is provided with an applicator head (6). In order to allow the assembly to be used after the head has become clogged, and in order to permit selection of different types of applicator, the head is removable from the shaft and can be replaced by a head with similar or different formations thereon.



EP 0 237 360 A2

Description

CONTAINER AND APPLICATOR ASSEMBLY

This invention relates to a container and applicator assembly. The invention concerns particularly, but not exclusively, an assembly for a liquid, semi-liquid, pasty or viscous cosmetic composition.

It is known to provide an assembly for such a cosmetic composition, the assembly comprising a container for containing a quantity of the composition, and an applicator which has a handle portion constituting a closure for closing an opening of the container, an elongate shaft attached at one end to the handle so as to project into the container when the handle portion is attached to the container, and an applicator head portion carried at the other end of the shaft.

Except when the applicator is being used for the application of the cosmetic composition, the shaft and head portion remain within the container immersed, or partly immersed, in the contained cosmetic composition. The head portion in the known devices is immovably attached to the shaft, and may have any of a wide variety of surface formations (e.g. bristles, teeth, grooves etc.) or absorbent material (e.g. felt or foamed rubber or plastics) capable of retaining a limited quantity of the cosmetics composition for application by the user.

While most of these forms of applicator are perfectly satisfactory for their intended purpose when new, the formations or material of the head tend to become clogged with the cosmetics composition after an extended period of use. For example, a known form of mascara applicator uses a miniature twisted wire stem brush with radial bristles, and after a period of use a residue of dried and hardened mascara tends to build up in the interstices between the bristles around the brush stem. This build up of residue severely limits the efficiency of application, and eventually it may become necessary before all of the mascara has been used either to wash the brush, which may be a rather messy procedure, or to discard the unit, which is clearly wasteful.

Furthermore, the residue of product can lead to problems of hygiene in that it provides a breeding ground for various microbiological organisms which may deposit on the applicator when exposed to the atmosphere during use.

The present invention is directed to the above problems, and seeks to alleviate them by providing an assembly comprising an applicator for applying a liquid, semi-liquid, viscous or pasty composition and a container for containing a quantity of said composition, the applicator having an elongate shaft portion and an applicator head carried or adapted to be carried by said shaft portion, the head being adapted for the retention of said composition, the applicator being adapted to be attached, when not in use, to the container with the said shaft projecting into said container, wherein said head is detachable from the shaft for replacement by another head.

With this arrangement, when the original head becomes clogged, it can simply be removed and discarded, and replaced with a new head which may

have been originally supplied with the assembly when new, or purchased subsequently.

If a variety of different heads are available, the arrangement of the invention can also permit the user to choose the form of applicator head which is most favoured to that particular user. For example, when initially supplied to the user, the assembly may include several different forms of head, so that the user can choose a particular one and attach it to the inner end of the applicator shaft.

Particular embodiments of the invention will now be described by way of example with reference to the accompanying drawings in which:-

Figure 1 is a longitudinal section through a container/applicator assembly in accordance with the present invention;

Figure 2 is a perspective view of the applicator of the Figure 1 assembly shown with the applicator head detached;

Figure 3 is a longitudinal section showing another form of application head attachment which can be used in the invention;

Figure 4 is a perspective view of a modified application head; and

Figure 5 is a partially cut-away longitudinal section of another modified applicator.

The assembly of Figure 1 comprises a container 1 in the form of a plastics or glass tube or bottle which is to be filled with a liquid, semi-liquid, paste-like or viscous cosmetics composition, e.g. mascara 20. The container has an opening defined by a cylindrical, externally screw-threaded neck 2. An applicator 3 for the cosmetics material includes a handle portion 4 which also constitutes a closure for the container 1, an elongate shaft 5 attached at one end to the handle 4, and carrying at its other end an applicator head 6. Fixed within the neck 2 of the container 1 is a wiper insert 7 which comprises a cylindrical member defining at its lower end a reduced diameter wiping orifice 8 for wiping clean the outer surface of the shaft 5, and for removing excess material from the head 6 on withdrawal of the applicator from the container.

With reference to Figure 2, the shaft is formed at its lower end with a reduced diameter end spigot 9, and the head 6 includes a carrier sleeve portion 10 which can fit tightly on this spigot 9.

In the disclosed embodiment, surface formations of the head portion 6 for retaining and applying cosmetics material comprise a plurality of axially extending, circumferentially distributed rows of radially projecting bristles 11 integrally formed with the carrier sleeve 10 from a suitable plastics material. However, it will be appreciated that many other structures for retaining the cosmetics material may be employed.

As explained earlier, the assembly may initially be supplied in the form as shown in Figure 1 with a quantity of cosmetics composition held in the container, together with one or more separate replacement heads 6, the idea being that when the

original head 6 becomes clogged and no longer usable, the user will remove it by pulling it axially off the spigot 9, and slide a replacement head onto this spigot. Alternatively, the assembly may be initially supplied without a head actually attached to the shaft 5 but with a set of heads supplied separately. If the set includes heads with differently structured composition-retention formations or material, the user may then select the preferred form of head and attach it to the end of the shaft 5.

Figure 4 illustrates a modified applicator head 6'' having two rows of bristle 11'' (rather than four rows as in the case of the head 6 shown in Figures 1 and 2) which vary in length so that a tapering outline is formed. The assembly may be sold with one head (6 for example) on the spigot and with another head (6'' for example) supplied as a replacement head.

Figure 3 illustrates a different form of replaceable head 6' attachable to the end of the elongate carrier shaft 5'. In this embodiment, the head 6' comprises a miniature twisted wire stem brush 12 having a central stem 13 and one or more helical flightings of radially extending bristles 14 rooted in the twisted stem. The upper end of the stem 13 is fixed, e.g. molded, into an axial bore 16 formed in the end of the shaft 5'. An appropriate means, for example an annular rib 17 on the outer surface of the plug 15 and a complementary annular recess 18 in the wall of the bore 16, is provided for retaining the head 6' to the shaft 5' just firmly enough to permit the head to be manually detached from the shaft.

In each embodiment, the applicator may be adapted to include a mechanism for separating the head from the end of the shaft. Such a mechanism could, for example, be operated by a push-button mechanism, which may include a push-rod extending axially through the shaft, to eject the head. This would avoid the need for direct manual engagement of the old, soiled head when it is to be replaced.

Such an arrangement is shown in Figure 5, in which the shaft 5' is tubular and receives a push-rod 19. The lower end of the push-rod 19 has an enlarged diameter to limit upward movement of the push-rod and bears upon the plug 15 of the brush 12. The upper end of the push-rod 19 is accessibly via the handle portion 4, and can be depressed using, for example, a hairpin in order to eject the brush 12 from the applicator 3'.

Claims

1. An assembly comprising an applicator (3) for applying a liquid, semi-liquid, viscous or pasty composition (20) and a container (1) for containing a quantity of said composition, for applicator having an elongate shaft portion (5, 5') and an applicator head (6, 6', 6'') carried or adapted to be carried by the shaft portion, and adapted for the retention of the composition, and means for attaching the applicator, when not in use, to the container with the shaft projecting into the said container, characterised in that the head (6, 6', 6'') is detachable

from the shaft (5, 5') for replacement by another head.

2. An assembly as claimed in claim 1, further characterised in that the head and shaft portion are detachable and attachable upon relative movement in the axial direction of the shaft.

3. An assembly as claimed in claim 1 or 2, further characterised by detent means (17, 18) to assist in holding the head attached to the shaft portion.

4. An assembly as claimed in any preceding claim, further characterised in that the shaft portion is integral with the means for attaching the applicator to the container.

5. An assembly as claimed in any preceding claim, further characterised by a mechanism (19) for detaching the head from the shaft portion.

6. An assembly as claimed in any preceding claim, in combination with a cosmetics composition (20) contained within the container.

7. An assembly as claimed in any preceding claim, further characterised by at least one further such head, the heads being interchangeably attachable to the shaft portion.

8. An assembly as claimed in claim 7, wherein the heads (6, 6'') have different surface formations (11, 11'') thereon (11, 11'').

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Fig.1.

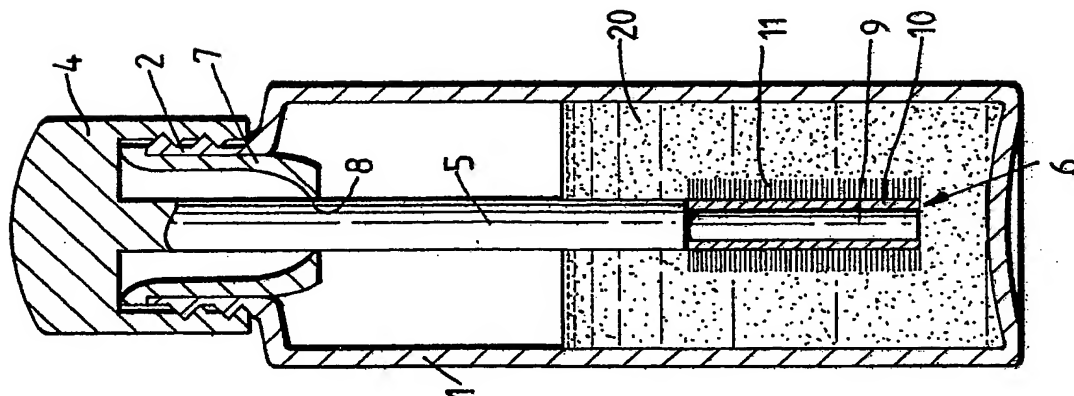


Fig.2.

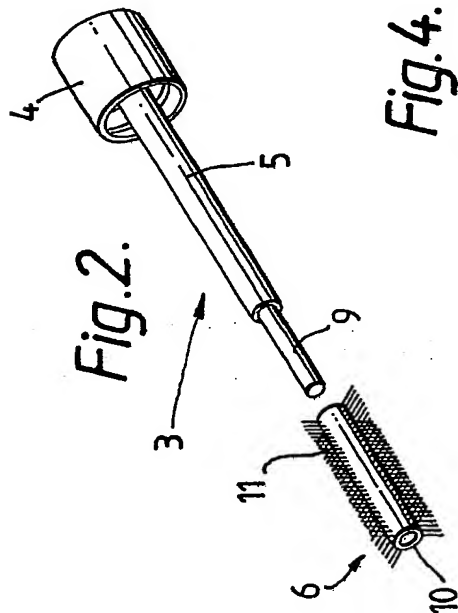


Fig.4.

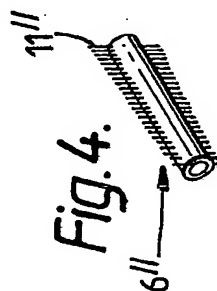


Fig.3.

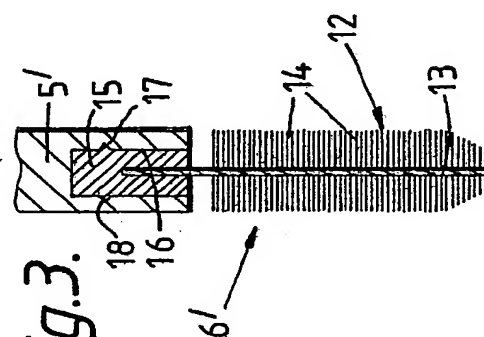
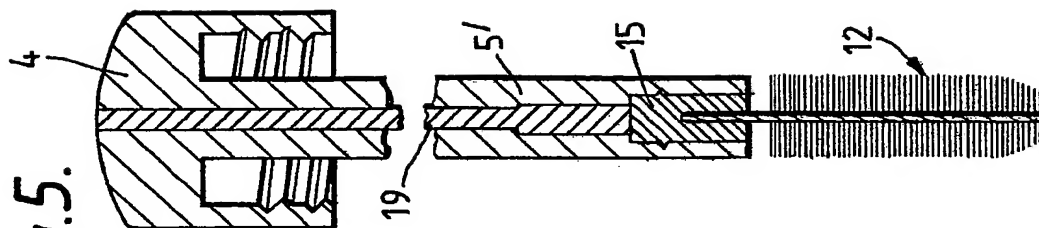


Fig.5.



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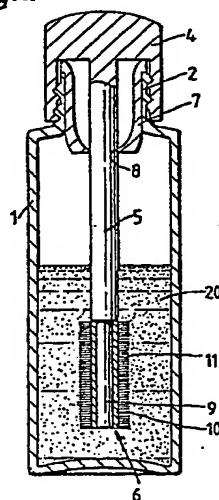
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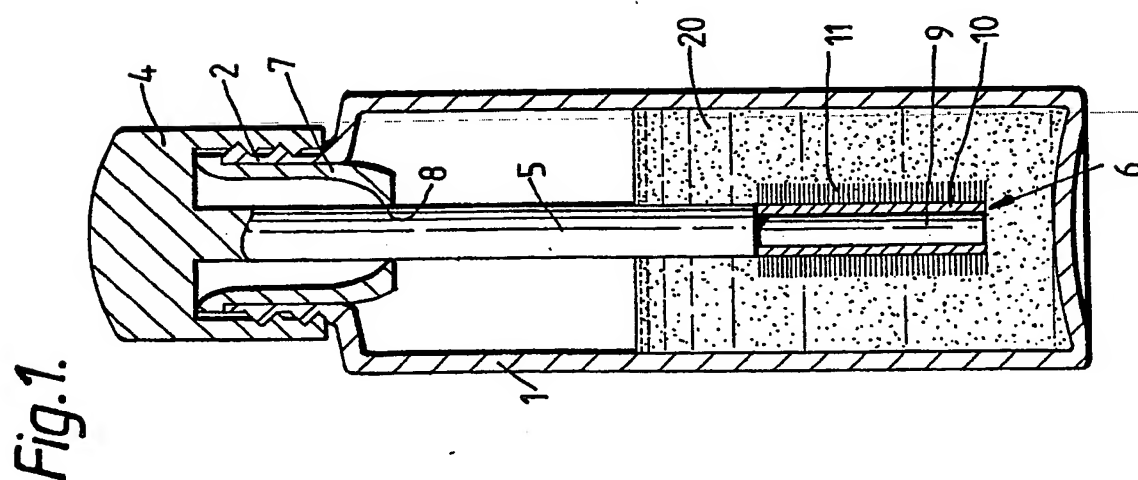
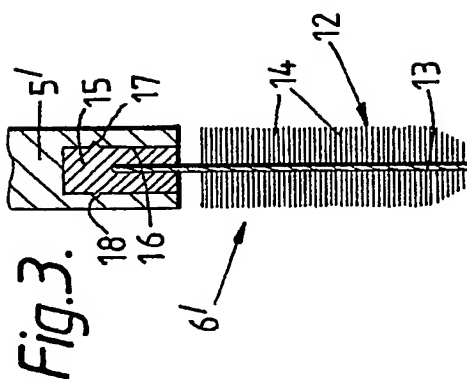
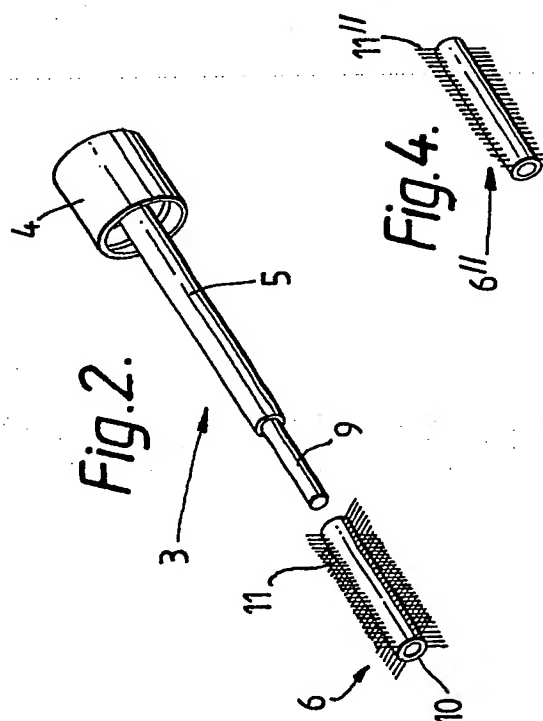
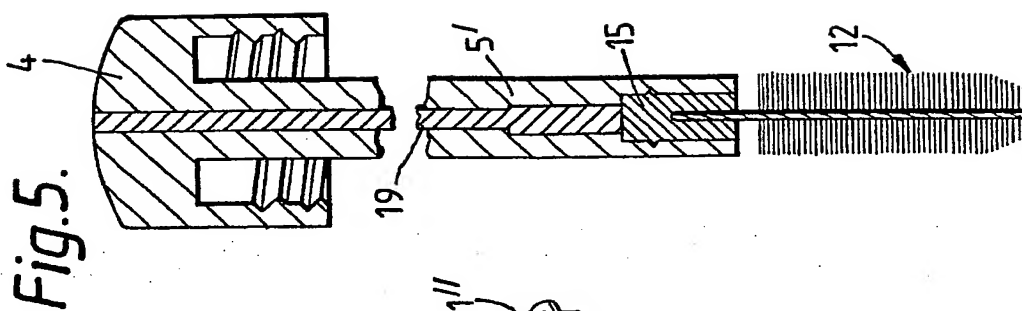
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Fig.1.







European Patent
Office

EUROPEAN SEARCH REPORT

Application number

EP 87 30 2182

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	US-A-3 262 461 (KAMBERSKY) * Column 1, line 51 - column 2, line 32; figures 1-3 *	1	A 45 D 40/26
A	---	6-8	
X	FR-A-1 300 952 (POLITZER) * Abstract, point 3; figures 1-7 *	1	
A	---	2, 6-8	
A	EP-A-0 171 983 (COLE) * Page 17, line 20 - page 20, line 17; figures 8, 11a, 11b, 11c *	1-3, 5	
A	GB-A-2 012 575 (RECKITT & COLMAN) * Figures 1-4 *	2, 3	TECHNICAL FIELDS SEARCHED (Int. Cl.4) A 45 D B 65 D A 46 B
A	FR-A-2 564 712 (COLE) * Figures 3a, 14 *	4, 6	
A	GB-A-1 408 536 (KARL) -----		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15-10-1987	Examiner SIGWALT C.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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